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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/813,076

03/31/2004

Tetsuya Sakai

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08/23/2005

Barry E. Bretschneider
Morrison & Foerster LLP
Suite 300
1650 Tysons Boulevard
McLean, VA 22102

EXAMINER

GRAINGER, QUANA MASHELL

ART UNIT

PAPER NUMBER

2852

DATE MAILED: 08/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|-------------------------------------|--|
| Office Action Summary | Application No. 10/813,076 | Applicant(s) SAKAI ET AL. | |
| | Examiner Quana M. Grainger | Art Unit 2852 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15 is/are allowed.
- 6) ☒ Claim(s) 1,5,6,8 and 11-13 is/are rejected.
- 7) ☒ Claim(s) 2-4,7,9,10 and 14 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. The content of the drawings are approved by the examiner.

Title

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Information Disclosure Statement

4. The information disclosure statement (IDS) submitted on 3-31-2004 was considered by the examiner.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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6. Claims 1, 5-6, and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Suzuki (2003/0049039A1). Suzuki teaches a detection device used in an image forming apparatus, comprising: a light-emitting element 13c which emits light towards a toner pattern formed on an image carrier; a first light-receiving element 13f which detects the light reflected from the toner pattern; a second light-receiving element 13g which detects the light reflected from the toner pattern in a fashion different from the first light-receiving element; and a control unit which calculates the amount of toner of the toner pattern based on the output values from the first and second light-receiving elements as well as the position of the toner pattern based on the output value from the first light-receiving element (figure 1, 18; paragraph[0063-0077]). The control unit calculates the amount of toner of the toner pattern based on the difference between the detection value output by the first light-receiving element and the detection value output by the second light-receiving element. The amount of light emission from said light-emitting element 13c is adjusted based on the toner amounts calculated based on the amount of reflected lights detected by the first and second light-receiving elements.

Suzuki teaches an image forming apparatus comprising: an intermediate transfer unit 51; a plurality of image forming units (1a-1d) disposed to the intermediate transfer unit; a plurality of transfer elements which sequentially transfer toner patterns formed by each of said image forming units onto the intermediate transfer unit; a light-emitting element which emits light towards the toner patterns formed on the intermediate transfer unit 51; a plurality of light-receiving elements each of which detects the reflected light from the toner patterns; and a control unit which calculates the toner amount of each toner pattern based on the output values from said

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plurality of light-receiving elements as well as the position of each toner pattern based on the output value from one of the light-receiving elements (figure 18).

7. Claims 1, 5-6, 8, and 11-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Kanbayashi (cited by applicant, US 4,796,065). Kanbayashi teaches a detection device used in an image forming apparatus, comprising: a light-emitting element 32 which emits light towards a toner pattern formed on an image carrier; a first light-receiving element 33 which detects the light reflected from the toner pattern; a second light-receiving element 34 which detects the light reflected from the toner pattern in a fashion different from the first light-receiving element; and a control unit which calculates the amount of toner of the toner pattern based on the output values from the first and second light-receiving elements as well as the position of the toner pattern based on the output value from the first light-receiving element (figure 1; column 4, lines 54-66; column 5, lines 2-48). The control unit calculates the amount of toner of the toner pattern based on the difference between the detection value output by the first light-receiving element and the detection value output by the second light-receiving element (column 6, lines 9-26). The amount of light emission from said light-emitting element is adjusted based on the toner amounts calculated based on the amount of reflected lights detected by the first and second light-receiving elements (column 2, lines 48-63).

Kanbayashi teaches an image forming apparatus comprising: an intermediate transfer unit; a plurality of image forming units disposed to the intermediate transfer unit; a plurality of transfer elements which sequentially transfer toner patterns formed by each of said image forming units onto the intermediate transfer unit; a light-emitting element which emits light

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towards the toner patterns formed on the intermediate transfer unit; a plurality of light-receiving elements each of which detects the reflected light from the toner patterns; and a control unit which calculates the toner amount of each toner pattern based on the output values from said plurality of light-receiving elements as well as the position of each toner pattern based on the output value from one of the light-receiving elements (column 5, lines 2-48). The amount of light emission from said light-emitting element is adjusted based on the toner amounts calculated based on the amount of reflected lights detected by said plurality of light-receiving elements (column 6, line 9-26).

Prior Art

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Maebashi et al. teaches pertinent prior art.

Allowable Subject Matter

9. Claims 2-4, 7, 9-10, and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claim 15 is allowed.

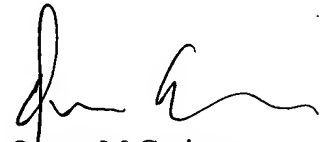
Contact Information

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quana M. Grainger whose telephone number is 571-272-2135. The examiner can normally be reached on 8am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Arthur Grimley can be reached on 571-272-2136. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Quana M Grainger
Primary Examiner
Art Unit 2852

QG